APPENDIX A- LIST OF ACRONYMS AND GLOSSARY OF TERMS

List of Acronyms

ACS: Aquatic Conservation Strategy
APE: Area of Potential Effect

BA: Biological Assessment
BAER: Burned Area Emergency Response
BE: Biological Evaluation
BMP: Best Management Practice
BTU: British Thermal Unit

CAA: Clean Air Act
CARB: California Air Resources Board
CCF: Hundred Cubic Feet
CEQ: Council on Environmental Quality
CFR: Code of Federal Regulations
CH: Critical Habitat
CWA: Clean Water Act
CWD: Coarse Woody Debris
CWE: Cumulative Watershed Effects

DBH: Diameter at Breast Height
DN: Decision Notice

EA: Environmental Assessment
EHR: Erosion Hazard Rating
EIS: Environmental Impact Statement
ERA: Equivalent Road Acres
ESA: Endangered Species Act
ESD: Emergency Situation Determination

F: Foraging Habitat
FEIS: Final Environmental Impact Statement
FOFEM: First Order Fire Effects Model
FONSI: Finding of No Significant Impact
FS: Forest Service
FSM: Forest Service Manual
FSS: Forest Sensitive Species
FWS: Fish and Wildlife Service

GHG: Greenhouse Gas
GIS: Geographic Information System
GMA: Goshawk Management Area

IDT: Interdisciplinary Team
IRA: Inventoried Roadless Area

KNF: Klamath National Forest Service

LAA: Likely to Adversely Affect
LOP: Limited Operating Period
LRMP: Land and Resource Management Plan
LSR: Late Successional Reserve

MA: Management Area
MBF: Thousand Board Feet
MIS: Management Indicator Species

NCRWQCB: North Coast Regional Water Quality Control Board
NE: No Effect
NEPA: National Environmental Policy Act
NF: North Fork
NFTS: National Forest Transportation System
NHPA: National Historic Preservation Act
NLAA: Not Likely to Adversely Affect
NMFS: National Marine Fisheries Service
NOAA: National Oceanic and Atmospheric Administration
NR: Nesting/Roosting
NRF: Nesting, Roosting, Foraging
NRHP: National Register of Historic Places
NSO: Northern Spotted Owl
NWFP: Northwest Forest Plan

PA: Programmatic Agreement
PDF: Project Design Feature
Pm: Probability of Mortality
PCT: Pre-commercial thin

ROD: Record of Decision

RR: Riparian Reserve

S&G: Standard and Guideline
SHPO: State Historic Preservation Office
SOPA: Schedule of Proposed Actions
SRPM: Standard Resource Protection Measure

TCP: Traditional Cultural Property
TES: Threatened, Endangered, and Sensitive
TMDL: Total Maximum Daily Load
TOC: Threshold of Concern

USDA: United States Department of Agriculture
USDI: United States Department of the Interior

VQO: Visual Quality Objectives

WA: Watershed Analysis
WBD: Watershed Boundary Dataset
WSR: Wild and Scenic River
WUI: Wildlife Urban Interface

Glossary

90th percentile weather conditions: the most extreme ten percent of fire weather days; where fuel moisture, temperature, relative humidity and wind speed are only exceeded ten percent of the time based on a historical period of weather observations.

Activity Fuels: Fuels created by management actions.

Anadromous Fish: Species of fish, commonly salmon and steelhead, born in fresh water, migrate to the ocean to mature, and return to fresh water to lay eggs (spawn).

Beneficial Uses: "Beneficial uses" of the waters of the state that may be guarded against water quality degradation include, but are not necessarily limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves (from Section 13050(f) of California's Porter- Cologne Water Quality Control Act).

Best Management Practices (BMPs): Measures certified by the State Water Quality Control Board and approved by the Environmental Protection Agency as effective means of reducing water quality impacts from non-point sources of pollution.

Board Foot A unit of measurement equal to an unfinished board one foot square by one inch thick.

Burn Plan (prescribed burn unit plan): a field document, required for all prescribed burning activities, setting forth the details for conducting a site-specific burn treatment. The prescribed burn plan details the prescription parameters and professional standards to be used in conducting the burn.

Burn Severity: The effect of the fire on various resources; within the EA, this refers to vegetation mortality unless otherwise stated (e.g., for soil). Categories are as follows (in terms of percent canopy killed):

Unburned: 0%
Very low: 1-24.9%
Low: 25-49.9%
Moderate: 50-74.9%
High: 75-100%

California Air Resources Board (CARB): a department in the State of California Environmental Protection Agency established in 1967 by the Mulford-Carrell Act; CARB combines the Bureaus of Air Sanitation and Motor Vehicle Pollution Control. The stated goals of the Act and CARB include attaining and maintaining health air quality, minimizing the public exposure to toxic air contaminants, and providing innovative approaches for complying with air pollution rules and regulations.

Canopy: Tree crowns (the leafy portion of trees) in a stand.

Canopy Cover: The area on a horizontal plane above ground level that is covered by live and dead vegetation, usually defined as a percentage; also a measure of quantification of canopy fuels. Applicable canopy cover may vary by resource of concern.

Coarse Woody Debris (CWD): Down logs at least 20 inches in diameter. For salvage harvests after a disturbance, the Forest Plan states that "The biomass left in snags can be credited toward

the amount of CWD biomass needed to achieve management objectives" (Forest Plan, pages 4-87 to 4-88; *7). The CWD retained should approximate the species composition of the original stand to help replicate preexisting suitable habitat conditions (Forest Plan, page 4-87, *10). See Forest Plan *MA 5-30 for additional guidelines for salvage.

Criteria Pollutants: Air pollutants, common throughout the United States, that can injure health, harm the environment and cause property damage. The Environmental Protection Agency has defined carbon monoxide, lead, nitrous oxide, ozone, particular matter, and sulfur dioxide as criteria pollutants.

Critical Habitat: Defined in the ESA as (1) the specific areas within the geographical area occupied by the species, at the time it is federally listed, on which are found those physical or biological features essential to the conservation of the species, and which may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species at the time it is listed, when it is determined by the Secretary of the Interior that such areas are essential for the conservation of the species.

Cultural Resources The tangible and intangible aspects of cultural systems, living and dead, that are valued by a given culture or contain information about that culture. Cultural resources include, but are not limited to, sites, buildings, structures, districts and objects associated with or representative of people and cultures, human activities and events.

Cumulative Effects: Those effects resulting from incremental effects of treatments, when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

Cumulative Watershed Effects (CWE) Model: A model for Cumulative Watershed Effects with three components: Equivalent Roaded Acres (ERA), sediment delivery from surface erosion (Universal Soil Loss Equation or USLE), and sediment delivery from mass wasting (GEO). The model quantifies disturbances and land sensitivity at the watershed scale (usually the 7th field watershed scale but also at larger scales). The estimated results fall on a continuum. As disturbances increase over time and space, at some point the risk of initiating or contributing to existing adverse cumulative watershed impacts becomes a cause for concern. Concern thresholds have been identified for each component based on field observations in the KNF. The CWE models may measure the additive direct and indirect effects of various activities within an alternative but may also be used to add the effects of alternative actions for a project to the effects of reasonably foreseeable future actions.

Danger Tree (also referred to as "hazard tree"): A standing tree that presents a hazard to people due to conditions such as deterioration of or damage to the root system, trunk, stem, or limbs or the direction or lean of the tree (29 CFR 1910.266(c); FSH 6709.11, glossary).

Degrade (wildlife habitat): When treatments influence the quality of habitat by the removal or reduction of habitat elements but *not to the degree where existing habitat function is changed.* It is important to recognize that the term degraded includes activities that *may be neutral or beneficial to habitat function* even though habitat elements (e.g. canopy cover, stand complexity) may be reduced. For example, research on foraging habitat selection by California and northern spotted owls suggests that creating small openings and varying stand density within uniformly dense younger stands may increase their use by owls (Irwin *et al.* 2007, 2011).

Diameter-at-Breast-Height (DBH): The diameter of a standing tree at a point 4½ feet above ground level, measured from the uphill side.

Direct Effects: Those effects occurring at the same time and place as the initial cause or action.

Dispersal: The relatively permanent movement of individual animals from one location to another. Usually dispersal is the movement of young animals from where they were born to a site where they eventually settle to breed.

Dispersal Habitat: Habitat that may lack nest/roost sites and may provide few foraging opportunities but, at a minimum for northern spotted owl, consists of stands with adequate tree size (greater than 11 inches) and canopy cover (greater than 40 percent) to provide protection from avian predators.

Downgrade (wildlife habitat): To cause effects from vegetation or prescribed fire management that reduce the quality and functioning of suitable nesting/roosting habitat to foraging habitat but do not remove habitat. For example, nesting/roosting habitat is downgraded to functional foraging habitat when the degree of change in the vegetation's structural characteristics (i.e. large trees, snag densities) and overall canopy complexity no longer supports nesting habitat.

Early Seral or Successional Stage The biotic community that develops immediately following the removal or destruction (for example, from wildfire) of the vegetation in an area.

Ecosystem: A dynamic community of biological organisms, including humans, and the physical environment with which they interact.

Effects: Impacts; physical, biological, economic, and social results (or expected results) from implementing an activity.

Endangered Species: Any species that is in danger of extinction throughout all or a considerable portion of its range (Endangered Species Act of 1973).

Environmental Assessment (EA) A concise public document which serves to: (a) briefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a Finding of No Significant Impact; (b) aid an agency's compliance with NEPA when no EIS is necessary; and (c) facilitate preparation of an EIS, when necessary.

Environmental Impact Statement (EIS) A detailed statement prepared by the responsible official in which a major Federal action which significantly affects the quality of the human environment is described, alternatives to the proposed action provided and effects analyzed.

Erosion: A general term for movement of soil particles on the surface of the land initiated by rainfall and running water. This includes surface erosion and channel erosion, as opposed to landsliding.

Evapotranspiration: Process of moisture being released into the air from vegetation or soils by evaporation and/or transpiration.

Fire Intensity: How hot the fire burns at the flaming front.

Fire Type: Defined by the following categories:

Active crown fire: the combination of surface fire intensity, ladder fuels and canopy bulk density allows fire to move into, and spread through, the crowns under the defined burning conditions.

Passive crown fire: individual tree or group torching occurs. The combination of surface fire intensity and ladder fuels allows for movement into the crowns under the defined burning conditions but canopy bulk density is too low for fire to spread through the crowns under the projected wind speeds.

Surface fire: a fire that remains on the forest floor. The combination of surface fire intensity and ladder fuels is not sufficient to move a fire into the crowns under the defined burning conditions.

Flame Length: The distance between the flame tip and the midpoint of the flame depth at the base of the flame. This is different from flame height because it takes into account the angle of the flame.

Foraging Habitat: Typically consists of roosting habitat attributes but also can consist of more open and fragmented forests in which birds can forage for food.

Forest Plan: The Klamath National Forest Land and Resource Management Plan as approved in 1995 and updated through 2010. The Forest Plan provides land allocations (Management Areas), Standards and Guidelines, and direction for management of the Klamath National Forest.

Fuel Loading: The quantity of fuel per acre in a given area.

Fuel Treatment: The process of removing and/or modifying natural or human created fuels to reduce fire hazard and achieve other resource objectives.

Fuels: Anything within the forest that will burn; usually live and dead woody vegetation.

Hydrologic: Dealing with the movement and properties of liquid water in environmental systems. Includes the circulation patterns of water in the biosphere from condensation and precipitation to movement both on and under the ground surface to evaporation back into the atmosphere.

Impacts: Physical, biological, economic, and social results (or expected results) from implementing an activity.

Indirect Effects: Those effects occurring later in time or that are spatially removed from the activity.

Interdisciplinary: The utilization of individuals representing two or more areas of knowledge and skills focusing on the same subject.

Issue: Point of discussion, debate, or dispute about the environmental effects of the Proposed Action.

Ladder Fuels: The combustible materials between the surface fuels and co-dominant canopy. Small trees and brush in the understory that allow fire to move from the ground into the tree crowns/canopy fuels. Ladder fuels are typically made up of intermediate trees, standing dead trees, and large woody shrubs.

Large Woody Debris: Woody material, at least 24 inches in diameter and 50 feet long, that is dead and lying on the forest floor. Term used for aquatic habitat.

Late-successional Old Growth (LSOG) habitat: Older forested stands with moderate to high canopy cover; often containing a multilayered, multispecies canopy dominated by large

overstory trees; large trees with broken tops or other indications of old and decaying wood; numerous large snags; and moderate to heavy accumulations of large logs on the ground.

Late-successional reserves (LSRs): Large blocks of habitat that are distributed across the range of the northern spotted owl and spaced closely enough to facilitate dispersal of owls. Late-successional reserves are managed to provide habitat for late successional and "old growth" species.

Leave Trees: Trees that are left un-cut. Usually these are for future seed sources and/or wildlife trees and watershed protection.

Legacy Site: Legacy sediment sites are existing sites that are 1) actively discharging or have the potential to discharge sediment in violation of water quality requirements; 2) are caused or affected by human activity; and 3) may feasibly and reasonably respond to erosion control/management measures (Water Board, Order No. R1-2013-0004).

Limited Operating Periods (LOPs): specified dates that restrict management activities near known wildlife nesting sites or un-surveyed suitable nesting habitat during the breeding season; LOPs may also restrict equipment use during periods of wet weather to minimize or avoid sedimentation into streams (also known as periods when wet weather operating standards (WWOS) will apply).

Maintain/improve (wildlife habitat): To cause effects from vegetation or prescribed fire management that retain or increase the quality of suitable habitat in the short and long term. For example, retaining important habitat characteristics and structural diversity while improving the ability of species to use habitat is maintaining/improving habitat. For NSO and other LSOG species, this includes, but is not limited to, retaining large trees and snags, retaining overall canopy complexity, or creating small openings and multi-storied stands without removing key prey habitat or nesting/roosting components.

Management Area (MA): A distinct geographical area with specified objectives and prescriptions.

Management Indicator Species (MIS): Management indicator species are animals or plants selected for special attention for one or more of three reasons. They may be: *(1) Emphasis species* - Species to be managed as key resources on the basis of identified issues; for example, threatened, endangered, rare, sensitive, harvest or special interest species; *(2) Indicate special habitat conditions* - Species that require special habitat such as snags, riparian, "old growth" forest stands, etc.; and/or *(3) lndicate cumulative forest ecosystem change* - Generally species having large home ranges and requiring a diversity of habitats.

Monitoring: Process of collecting information to evaluate if the objectives, and anticipated or assumed results, of a management plan are being realized or if implementation is proceeding as planned.

National Environmental Policy Act (NEPA): The act that governs how federal agencies assess impacts of management treatments on public lands. The process is interdisciplinary and requires consideration of the environmental effects of a range of alternatives and disclosure of those effects.

Natural Forest Stand: A forested stand of natural origin. The stand may have been harvested in the past but has not been planted.

Nesting/Roosting (NR) Habitat: Habitat for building nests and raising young birds; for NSO this typically includes: a multi-layered, multi-species canopy dominated by large overstory trees; overall moderate to high canopy cover (60 percent to 90 percent); a high incidence of trees with large cavities or other types of deformities (e.g., broken tops, mistletoe, etc.); numerous large snags; an abundance of large, dead wood on the ground; and open space within and below the upper canopy within which birds can fly.

Non-commercial Thin: thinning of trees less than ten inches dbh, primarily for fuels reduction.

Noxious Weed: A non-native plant species that has been designated by county, state, or national authorities to pose a risk to agricultural or natural lands due to the high rate of seed production and/or vegetative spread.

Probability of Mortality: The likelihood that a tree will die. For Douglas-fir, it is the likelihood that a tree will die in the next three years; for all other species, it is the likelihood that the tree will die in the next five years. The Forest Service developed marking guidelines for salvage units based upon Report #RO-11-01 "*Marking Guidelines for Fire-Injured Trees in California*" (Smith and Cluck, May 2011), which used peer reviewed scientific literature for tree species in Northern California. The guidelines provide a sliding scale of the probability for tree mortality based on percent volume or length of crown scorched by fire. The responsible official has chosen to salvage trees with a 0.7 probability of mortality, meaning that the Forest Service will harvest trees with a 70% or greater chance of dying. It is anticipated that the majority of trees within salvage units will be salvaged, as most burned with a high severity of vegetation mortality. Because of the hazard associated with danger trees, a 0.6 probability of mortality will be used to determine which danger trees to fell.

Residual: The trees remaining after harvesting.

Resilience: An ecosystem's ability to maintain structure and patterns of behavior in the face of disturbance.

Riparian: In general, characterized by being situated on the bank of a river or other body of water. In ecology, the term is applied both to species that live near streams and to the area adjacent to streams where vegetation and microclimate are influenced by the presence of the stream.

Riparian Reserve (RR): A land allocation in the Forest Plan that includes an aquatic ecosystem and the adjacent upland areas directly affecting it. It also includes unstable and potentially unstable lands that are not associated with aquatic areas. Specific standards and guidelines provide direction for these areas as outlined in Management Area 10 of the KNF Forest Plan.

Risk: The chance of loss.

Road: A motor vehicle travelway over 50 inches wide, unless classified and managed as a trail. A road may be classified [an NFTS road] or temporary (36 CFR 212.1).

Temporary Road on Existing Roadbed: Roads on existing roadbeds authorized by contract, permit, lease, other written authorization, or emergency operation, not intended to be a part of the forest transportation system and not necessary for long-term resource management (36 CFR 212.1).

Roadbed: Road surface and underlying structure.

Roosting Habitat: Habitat similar to that for nesting and roosting but may lack the structural complexity associated with nesting habitat, especially for NSO.

Salmonid Member of the fish family Salmonidae; includes salmon and trout.

Salmon River Complex: Human-caused fires that combined to burn approximately 14,779 acres from July 31, 2013 until contained on August 30, 2013. The fires burned exclusively on National Forest System lands except for a five-acre parcel of private land. The Salmon Salvage Project's area tracks the fire area, though treatments will only occur on about 1,303 acres of the burned area.

Salvage: Removal of recently-dead or dying trees to minimize the loss of wood products.

Scenic Character: A combination of the physical, biological and cultural images that gives an area its positive, socially-valued scenic identity. Scenic Character provides a frame of reference from which to measure Scenic Integrity (degree of visible disturbance) and Scenic Stability (sustainability of valued scenery attributes).

Scenic Integrity: The degree to which a landscape is free from visible disturbances which detract from the natural or socially-valued appearance. It also includes visible disturbances due to human activities or extreme natural events which are considered to be outside the historic range of variability for a particular landscape.

Scenic Stability: The degree to which the Scenic Character can be sustained through time and ecological progression.

Scoping: The process used to identify the scope of issues to be addressed and to determine the relevant issues related to a Proposed Action.

Sediment: Soil particles in water. Suspended sediment consists of small soil particles carried along by the water's turbulent flow.

Sensitive Species: Those species identified by the Regional Forester for which population viability is a concern as evidenced by significant current or predicted downward trends in (a) population numbers or density or (b) habitat capability that would reduce a species' existing distribution.

Seral: A developmental stage of a biotic community in an ecological succession.

Silviculture: The art and science of growing and tending forest vegetation. It includes controlling the establishment, composition, and growth of forests for specific management goals.

Snag: A standing dead or dying tree that has lost most of its branches, or the standing portion of a broken-off tree. Snags provide cavities for nesting, perches, and feeding sites for wildlife.

Soil Porosity: State of having pores or voids in the soil that hold air or water; permeability.

Soil Productivity: The capability of a soil to produce a specific crop such as fiber, forage, etc., under defined levels of management.

Stand: A community of trees or other vegetation uniform in composition, constitution, age, spatial arrangement, or condition to be distinguishable from adjacent communities.

Standard and Guideline: A principle requiring a specific level of attainment, a rule against which to measure.

Stocking: The degree to which trees occupy the land, measured by (basal area) BA and/or number of trees by size and spacing, compared with a stocking standard; that is, the BA and/or number of trees required to fully utilize the land's growth potential. Where tree growth is inhibited due to competition from too many trees, the site is said to be overstocked.

Surface Fuels: Loose combustible material on or close to the soil surface (consisting of fallen leaves or needles, twigs, bark, cones, and small branches, as well as grasses, small plants, seedlings trees, dead branches, and logs) that contribute to surface fire behavior.

Threatened Species: Any species that is likely to become an endangered species within the foreseeable future throughout all or a considerable portion of its range (Endangered Species Act of 1973).

Understory: Vegetation (trees or shrubs) growing under the canopy formed by taller trees.

Viewshed: The total land area visible from a single viewpoint or a set of viewpoints. Viewsheds typically identify areas visible from public highways, trails, communities, recreation areas or other socially sensitive viewpoints.

Visual Quality Objective (VQO): Measurable standards for visual resource management based on the acceptable degree of alteration of the characteristic landscape. These VQOs are based strictly on inventory conditions and have not undergone the land management planning process.

Watershed: The entire land area that drains to a specific point.

- **5th field watershed:** A watershed that is usually more than 40,000 acres in size.
- **6th field watershed:** A watershed that ranges from about 10,000 to 40,000 acres in size.
- **7th field watershed:** A watershed or drainage that ranges from about 2,500 to 10,000 acres in size.

Watershed Analysis: Watershed analysis is a systematic procedure for characterizing watershed and ecological processes to meet specific management and social objectives.

Wildlife Urban Interface (WUI): The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

Defense Zone: This is a ¼ mile buffer around structures and other human developments. The goal of this zone is to create an environment where firefighters can safely and effectively suppress wildfires by treating fuels and vegetation to reduce flame heights below 4’ and have no crown fire under 90th percentile weather conditions on 100% of the land base.

Threat Zone: This is a 1.5 mile buffer around structures and other human developments. The goal of this zone is to treat fuels and vegetation to reduce crown fire to a surface fire before reaching the community fire defense zone under 90th percentile weather conditions.

References

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